

# Prerak Raja

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## Education

### Arizona State University

MASTER OF SCIENCE IN COMPUTER SCIENCE, GPA: 4.0/4.0

USA

January 2021 - December 2022\*

### Ahmedabad University

BACHELOR OF TECHNOLOGY IN INFORMATION AND COMMUNICATION TECHNOLOGY, GPA: 3.33/4.33

India

July 2014 - May 2018

## Skills

Languages	Python, Java, C, C++, HTML, CSS, JavaScript, SQL
Databases	MySQL, DynamoDB, PostgreSQL
Frameworks	Django, Flask, Node.js, TensorFlow, PyTorch, Keras, OpenCV, Pandas, NumPy, Bootstrap
Tools	Git, Jira, AWS, GCP, Docker, Heroku, Jupyter Notebook

## Experience

### Arizona State University

January 2021 - Present

SOFTWARE ENGINEER

- Managed large-scale deployment of JupyterHub with Nbgrader and webwork software, facilitating approx 5500 students.
- Handled linux server administration, apache configuration, and administered server-side web applications for the statistics department.
- Managed backup/recovery, configuration management, and maintenance for MySQL and SQLite databases; automated tasks like user account creation, database management, and system maintenance using Shell and automation scripts, reducing manual work by 200%.

### Augmenify Infotech Pvt. Ltd.

September 2020 - November 2020

BACKEND DEVELOPER

- Documented and coded server-less web application for the hotel industry and designed REST API using Flask-based JWT authentication.
- Redeveloped an existing system to support customer account management, scheduling, and time tracking; enabled API calls by making use of Amazon API Gateway, AWS Lambda, and DynamoDB, lowering company's cost by 20%.

### Epitome Corporation Pvt. Ltd.

July 2019 - December 2019

SOFTWARE DEVELOPER

- Tested, designed, and developed backend APIs of WebRTC based multi-party video conferencing web application and delivered the project 15 days ahead of schedule by efficiently designing the flow of the project.
- Utilized Django technologies including templates, ORM and forms to communicate with databases.

### Meditab Software Pvt. Ltd.

May 2018 - June 2019

PROGRAMMER ANALYST

- Optimized image processing algorithm of pill detection by creating customized MASK-RCNN algorithm, increasing accuracy by 15%.
- Trained classification algorithm along with triplet loss to learn the embedding of pills, minimizing the hassle of collecting data of new pills.
- Devised a pipeline of the project to incorporate it into the product of the company. Implemented Restful APIs in Django that helped Quality Analyst team to increase reporting speed by 46%.
- Built a web app to onboard data from the company's product using Flask, Postgres, and AWS S3, enabling interactive charts in real-time.
- Mentored 2 interns to optimize the pill detection algorithm and to include the multiprocessing pipeline, increasing overall speed by 75%.

### Indian Space Research Organization (ISRO)

January 2018 - May 2018

RESEARCH INTERN

- Implemented noise reduction algorithm on the satellite image and prepared architecture for detecting objects in high-resolution satellite images, achieving 80% accuracy.
- Increased accessibility of satellite image data by redesigning database and application for showcasing graphical data.

## Project

### Twitter Analysis 🔄

February 2021 - April 2021

TECH STACK: PYTHON, DJANGO, HTML, CSS, BOOTSTRAP, GCP(PUB/SUB, DATAFLOW, DATA STUDIO, GAE, BIGQUERY)

- Created a web-based elastic application to provide the user with a detailed analysis of the sentiment of users on top 10 trending movies and songs utilizing Google Cloud Platform services.
- Coded Pub/Sub routine to fetch 1000 tweets at a time from Twitter; stored data in BigQuery for efficiently displaying data in DataStudio.
- Used Dataflow for resource autoscaling and work rebalancing, decreasing overall response time by 50%;
- Assessed the scalability of web application by generating 10000 user requests with the help of Apache Beam.

### Image Recognition as a Service 🔄

January 2021 - March 2021

TECH STACK: JAVA, NODEJS, PYTHON, HTML, CSS, JAVASCRIPT, AWS(S3, EC2, SQS)

- Built an elastic web application that automatically scales in and scales out 20 EC2 instances based on the traffic of current users; created custom AMIs to deploy image recognition app on EC2 instance; used SQS to handle request and response.
- Deployed image recognition system on AWS and successfully evaluated the application by generating 1500 requests.

### Music Streaming Website 🔄

June 2020 - July 2020

TECH STACK: PYTHON, DJANGO, HTML, CSS, BOOTSTRAP, AWS(S3), HEROKU

- Developed music player comprising of features like login/register, play songs, view detailed info of song, create customized playlist, view recently played songs, and applying search filters.

## Achievements

2021 **Scholarship**, Received 100% tuition fee waiver at Arizona State University.

USA

2016 **Hackathon**, Stood 51st countrywide in IEEE XTREME Coding Competition.

India